

We claim:

1. A detector array for use in a laser imaging apparatus, comprising:

5 a) a plurality of housings disposed in an arc around an opening in which an object to be scanned is disposed, each housing including an open front end directed to the object, a rear end and a longitudinal axis;

10 b) a detector disposed within each housing at a distance from said front end, thereby to restrict the field of view of each detector;

c) said housings being adapted to be orbited around the object about an orbit axis; and

15 d) each of said detectors being adapted to simultaneously detect light exiting from the object within the respective field of view of each detector.

2. A detector array as in Claim 1, wherein:

a) each housing longitudinal axis is disposed toward said orbit center.

20 3. A detector array as in Claim 1, wherein:

a) each housing is tubular.

4. A detector array as in Claim 1, wherein:

a) each housing is round in cross-section.

5. A detector array as in Claim 1, wherein:

25 a) each housing is square in cross-section.

6. A detector array as in Claim 1, and further comprising:

a) a lens disposed at each front end of said housings for restricting the field of view of each detector

30 7. A detector array as in Claim 6, wherein:

a) said lens is plano-convex.

8. A detector array as in Claim 1, wherein:

a) said housings are disposed in a one-dimensional array.

5 9. A detector array as in Claim 1, wherein:

a) said housings are disposed in a two-dimensional array.

10. A detector array as in Claim 1, wherein:

10 a) at least two housings are directed toward the object being scanned such that their field of views merge together.

11. A detector array as in Claim 1, and further comprising:

15 a) a sample and hold integrator connected to each detector.

12. A detector array for use in a laser imaging apparatus, comprising:

20 a) a plurality of paraboloidal mirrors disposed in an arc around an opening in which an object to be scanned is disposed;

b) a detector disposed at a distance from the focal point of each mirror, thereby to restrict the field of view of each detector;

25 c) said mirrors being adapted to be orbited around the object about an orbit axis;

d) each mirror including a focal point directed toward said orbit center; and

30 e) each of said detectors being adapted to simultaneously detect light exiting from the object within the respective field of view of each detector.

13. A detector assembly for use in a laser imaging apparatus, comprising:

- a) a housing having front and rear ends; and
- b) a photo-detector disposed within said housing at a distance from said front end, thereby to restrict the field of view of said detector.

14. A detector as in Claim 13, wherein:

- a) a lens disposed in said front end to restrict the field of view of said detector.

15. A method for collecting light exiting from ^{an} ~~a~~ object being scanned with a light source, comprising:

- a) providing a source of ^a laser beam;
- b) directing the laser beam toward the object being scanned;
- c) orbiting the laser beam around the object;
- d) providing a plurality of ^{detectors} ~~sensors~~ adapted to simultaneously detect the laser beam after passing through the object; and
- e) restricting the field of view of each detector so that each detector only sees its own patch of surface of the scanned object, each patch not overlapping with ^{an} ~~a~~ adjacent patch.

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